

RZA AGRA, Inc.

Engineering & Environmental Services

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16 April 1993

RECEIVED

APR 26 1993

DEPT. OF ECOLOGY

W-8424-1

Blackstock Properties Limited
P.O. Box 9405
Seattle, Washington 98109

Attn: Mr. Jim Blackstock

Subject: Quarterly Groundwater Monitoring Status Report
Former Blackstock Lumber Property
601 Elliot Avenue West
Seattle, Washington

DEPARTMENT OF ECOLOGY	
NWRO/TCP TANK UNIT	
Inc # 1456	
INTERIM CLEANUP REPORT	<input checked="" type="checkbox"/>
SITE CHARACTERIZATION	<input type="checkbox"/>
FINAL CLEANUP REPORT	<input type="checkbox"/>
OTHER <u>GW Monitoring</u>	<input checked="" type="checkbox"/>
AFFECTED MEDIA: SOIL	<input checked="" type="checkbox"/>
OTHER _____ GW	<input checked="" type="checkbox"/>
INSPECTOR (INIT.) _____	DATE <u>6-3-93</u>

Dear Mr. Blackstock:

RZA AGRA, Inc. (RZA AGRA) is pleased to present this report documenting our quarterly groundwater monitoring activities performed at the above referenced site during March 1993 (see Figure 1, Vicinity Map). The report includes a description of field activities performed, the results of analytical testing of groundwater samples, and our conclusions and recommendations based upon the available data. The report also includes the analytical test results from our initial sampling of the groundwater monitoring wells on site, which took place in January of this year.

Introduction

In July of 1991, Northwest EnviroService, Inc. excavated and removed five underground storage tanks (USTs) at this site. Soil sampling and site assessment services were provided by Earth Consultants, Inc. (ECI). The tanks ranged in capacity from 300 gallons to 10,000 gallons and contained various petroleum products including gasoline, diesel, and heating oil. Petroleum contamination was discovered in soils near a UST which was utilized to store Bunker "C" heating oil. A portion of the contaminated soil (above the water table) was excavated and placed in a stockpile. Petroleum contamination discovered beneath a historical building foundation during excavation was left in place for removal at a later date. Petroleum hydrocarbon concentrations detected in the site soils ranged from 150 parts per million (ppm) to 8600 ppm.

During October of 1991, two groundwater monitoring wells were installed at the site under the direction of ECI, in order to assess the condition of groundwater near the historical location of three underground storage tanks. No petroleum contamination was detected in the groundwater at these locations.

RZA AGRA began work at this site in July of 1992. Our initial work consisted of separating petroleum-impacted soil stockpiled on site from "clean" soil in the stockpile. Soil impacted by petroleum at levels above the Model Toxics Control Act (MTCA) Method A cleanup action level was hauled to the Regional Disposal Company Transfer Station on 3rd Avenue in Seattle for transport to Roosevelt Regional Landfill in Eastern Washington.

In December of 1992, RZA AGRA conducted a subsurface exploration program to evaluate the soil and groundwater conditions in the immediate vicinity of the Bunker C contamination discovered during previous site assessment work. The exploration program consisted of backfilling the open excavation on site and then advancing eight soil borings in or near the area where petroleum hydrocarbons were previously discovered. The borings ranged in depth from 11.5 feet to 16.5 feet. Three borings were completed as groundwater monitoring wells which are being utilized to gather data on the physical and chemical parameters of the local groundwater. The locations of borings and monitoring wells are shown on the Site and Exploration Plan, Figure 2.

Groundwater Monitoring Procedures

Fluid level measurements were performed in each monitoring well using an interface probe which measures the thickness of liquid petroleum hydrocarbons (LPH), if present, and depth to groundwater relative to the top of casing (TOC) elevations for the wells. TOC elevations, and thus groundwater elevations, are based on an arbitrary datum of 100.00 feet established at the southwest corner of the stormwater catch basin in proximity to the groundwater monitoring wells. A summary of fluid levels measurements is presented in Table 1, attached. This table contains the initial fluid level data as well as data from the quarterly monitoring event in March.

All three of the RZA AGRA groundwater monitoring wells were purged and sampled during the March monitoring event. Approximately four gallons of water was purged from each well utilizing a small capacity honda pump. Following purging of the wells an RZA AGRA field representative used a disposable bailer to obtain a discrete, representative sample of the groundwater present in the well. No apparent signs of petroleum contamination were noted in the groundwater during sampling (petroleum odor or discoloration).

The samples collected were carefully decanted into laboratory prepared, glass containers; labelled; and, placed in a chilled cooler for transport to Friedman Bruya Inc. (FBI) in Seattle, Washington. FBI analyzed all groundwater samples for total petroleum hydrocarbons utilizing the Washington Department of Ecology (Ecology) W418.1 analytical method.

Analytical results indicate that, although one groundwater sample contained detectable petroleum hydrocarbons, none of the samples contained petroleum hydrocarbons at levels above the MTCA Method A cleanup action level of 1,000 parts per billion (ppb). Table 2 presents a summary of analytical results for groundwater testing performed during RZA AGRA's fieldwork at this site.

Conclusions and Recommendations

Although the water sample collected from MW-2 contained detectable petroleum hydrocarbons, the concentration quantified was below the MTCA Method A cleanup action level. Initial groundwater analysis did not reveal any detectable petroleum hydrocarbons in the water from this well. Since this well is located near the estimated center of the petroleum contaminated soil remaining in the subsurface at this site, it is not unexpected that some petroleum impact would be observed over time. The impact observed has been minimal and continued monitoring may provide data supporting conditional site closure within Ecology guidelines.

We appreciate the opportunity to be of continued service to Blackstock Properties, Ltd. If you have any questions regarding this report, or any other aspect of this project, please do not hesitate to contact us at your earliest convenience.

Respectfully Submitted,

RZA AGRA, Inc.



Carol A. Hitley, P.E.

Project Environmental Engineer



Daryl S. Petrarca, REA

Site Assessment Manager

CAH/ch/DSP

TABLE 1
Summary of Fluid Level Data
Blackstock Properties, Ltd.
Seattle, Washington
Project Number: W-8424-1

Date	MW-1 TOC: 101.09		MW-2 TOC: 100.94		MW-3 TOC: 100.96		ECI MW-1 TOC:		ECI MW-2 TOC: 101.19	
	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
01-29-93	2.27	98.82	2.40	98.54	2.24	98.72	---	---	---	---
02-02-93	2.87	98.22	2.71	98.23	2.72	98.24	---	---	3.13	98.06
03-26-93	2.07	99.02	2.27	98.67	2.12	98.84	---	---	2.57	98.62

NOTES: -- Data not obtained
ECI Wells were installed by Earth Consultants, Inc.

TABLE 2
Summary of Analytical Results - Groundwater
Blackstock Properties, Ltd.
Seattle, Washington
Project Number: W-8424-1

Well Number	Date Sampled	TPH/W418.1 (ppm) ¹	Comments
MW-1	1-29-93 3-26-93	< 0.2 < 0.2	No Odor No Odor or Discoloration
MW-2	1-29-93 3-26-93	< 0.2 0.7	Slight Septic Odor No Odor or Discoloration
MW-3	1-29-93 3-26-93	< 0.2 < 0.2	No Odor No Odor or Discoloration
Trip Blank	1-29-92 3-26-93	< 0.2 < 0.2	Prepared by Lab Prepared by Lab

NOTES: 1. ppm = parts per million

Date of Report: March 30, 1993

Date Received: March 26, 1993

Project: 8424-1, Blackstock

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS
BY IR (METHOD 418.1)
(MODIFIED TO REPORT RESULTS AS DIESEL)
Results Reported as mg/L (ppm)**

<u>Sample #</u>	<u>Total Petroleum Hydrocarbons</u>
MW1	<0.2
MW2	0.7
MW3	<0.2
Trip Blank	<0.2
 <u>Quality Assurance</u>	
Tap Water Blank	<0.2
Tap Water (Matrix Spike) % Recovery	114%
Tap Water (Matrix Spike Duplicate) % Recovery	114%
Spike Level	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

DUPLICATE COPY

March 30, 1993

INVOICE # 93RZA0330-1

8424-1
CFA

RZA - AGRA
11335 NE 122nd Way, Suite 100
Kirkland, WA 98034

RE: Project 8424-1, Blackstock: Results of testing requested by Carol Hutley,
Project Leader and submitted on March 26, 1993.


3 water samples analyzed for Total Petroleum Hydrocarbons by Method 418.1 @ \$50 per sample	<u>\$ 150.00</u>
Amount Due	\$ 150.00

FRIEDMAN & BRUYA, INC.
 3008-B 16th Avenue West
 Seattle, WA 98119

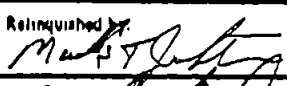
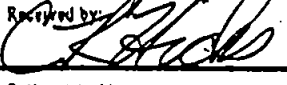
SAMPLE CHAIN OF CUSTODY

Send Report To:

Company RZA - AGRA INC Contact Carol Hutley
 Address 11335 NE 122nd Way
 City, State, Zip Kirkland WA 98034-6918
 Phone # (206) 820-4669 Date March 26, 1993

SITE NO. RZA-AGRA Job # 8424-1	PROJECT NAME BlackStock	PURCHASE ORDER #
SAMPLERS (signature) 		PROJECT LOCATION ELLIOTT AVE
REMARKS (MARK T. JOHNSTON)		SAMPLE DISPOSAL INFORM. <input type="radio"/> Dispose after 30 days <input type="radio"/> Return Samples <input type="radio"/> Call for Instructions

SAMPLE #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
MW 1	3/26/93 10:20am	WATER 1 LITER	1		WTPH 418.1
MW 2	3/26/93 10:30am	WATER 1 LITER	1		WTPH 418.1
MW 3	3/26/93 10:45	WATER 1 LITER	1		WTPH 418.1
TRIP BLANK					

SIGNATURE	PRINT NAME	COMPANY	Date	Time
	MARK T JOHNSTON	RZA-AGRA Inc	3/26/93	11:05am
	CR Hicks	FBI	3-26-93	11:05am
Relinquished by:				
Received by:				